

13.4 OPERATIONAL REVIEW

REVIEW RESPONSIBILITIES

Primary - Licensee Qualification Branch (LQB)Quality Assurance and Maintenance Branch (HOMB)¹

Secondary - None

I. AREAS OF REVIEW

LQBHQMB² reviews and evaluates the operating license (OL) or combined license (COL)³ applicant's plan for achieving administrative control by⁴ conducting reviews of operating phase activities that are important to safety, as described in the applicant's Final Safety Analysis Report (FSAR).⁵ The primary focus of attention should be on the provisions that will be used to implement the licensee's responsibility relating to for review of proposed changes, tests, and experiments, on provisions for review of post-trip reviews, and on the procedures for after-the-fact review, and for evaluation of unplanned events, such as Licensee Event Reports, and on the provisions for the evaluation of plant operations. No information is required in the PSAR. This Standard Review Plan (SRP) section does not apply to CP or design certification applicants.⁹

The FSAR should describe The review will address ¹⁰ provisions for the plant operations staff ¹¹ review of operational activities, for the independent review of plant operations and for the independent assessment of activities for safety enhancement. Specific information to be reviewed is as follows:

1. How the onsite organization (i.e., plant staff)¹² functions with respect to review of proposed changes to systems or procedures, tests, and experiments, and of unplanned

DRAFT Rev. 3 - April 1996

USNRC STANDARD REVIEW PLAN

Standard review plans are prepared for the guidance of the Office of Nuclear Reactor Regulation staff responsible for the review of applications to construct and operate nuclear power plants. These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required. The standard review plan sections are keyed to the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants. Not all sections of the Standard Format have a corresponding review plan.

Published standard review plans will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience.

Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Washington, D.C. 20555.

events that have operational safety significance. This will include subject matter to be reviewed, organizational provisions for conducting the reviews including personnel, and the documentation and reporting of review activities.

- 2. The procedure and organization employed to examine safety-related operating activities independently¹³ of the operating organization. This will include how and when such a program is to be implemented, relative to fuel loading of the first unit, and include subject matter to be reviewed, organizational provisions for conducting the review including personnel, and the documentation and reporting of review activities.
- 3. The provisions employed to perform independent reviews and assessments of plant activities. This will include the functions of the review group, organizational provisions for conducting the activities, including personnel, and the documentation and reporting of these activities.

Review Interfaces¹⁴

The Quality Assurance and Maintenance Branch (HQMB) reviews the applicant's audit program as part of its primary review responsibility for SRP Section 17.3.¹⁵

The HQMB will coordinate other branch evaluations that interface with the overall review of operational review as follows:¹⁶

- 1. The Human Factors Assessment Branch (HHFB) reviews the qualification requirements for specified applicant positions as part of its primary review responsibility for SRP Sections 13.1.1 and 13.1.2.¹⁷
- 2. The Technical Specifications Branch (TSB) reviews the applicant's proposed technical specifications as part of its primary review responsibility for SRP Section 16.0.¹⁸

II. ACCEPTANCE CRITERIA

LQBHQMB¹⁹ acceptance criteria isare²⁰ based on meeting the relevant requirements of the following regulations:²¹

- 1. 10 CFR Part 50, Appendix B, as it relates to administrative controls for the operational phase of the plant.²²
- 2. 10 CFR Part 50, 50.40(b) as it relates to the licensee being technically qualified to engage in licensed activities. Specific criteria necessary to meet the relevant requirements of 50.40(b) as they relate to items 1, 2, and 3 of subsection I listed above are as follows:²³
- 3. 10 CFR 50.36(c)(5) as it relates to the applicant's administrative controls utilizing reviews and audits.²⁴

Technical Rationale

The technical rationale for application of these acceptance criteria to reviewing the applicant's operational review is discussed in the following paragraphs:²⁵

1. Compliance with Appendix B to 10 CFR Part 50 requires an applicant to identify managerial and administrative controls to be used to ensure safe operation.

This SRP section guides the review of applicant's procedures for plant staff review of operational activities and for independent review of plant operations and independent assessment of activities for safety enhancement. These licensee reviews contribute substantially to managerial and administrative controls. Guidance for acceptability of the applicant's procedures is found in Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," and in ANS 3.2 as described in Regulatory Guide 1.33. Further Guidance is found in NUREG-0737, Item I.B.1.2.

Meeting this requirement ensures that activities potentially impacting safety will be reviewed thoroughly, allowing informed management decisions regarding activities that are important to safety.²⁶

2. Compliance with 10 CFR 50.40(b) requires that the licensee be technically qualified to engage in licensed activities.

This SRP section guides the examination of the qualifications established for those positions proposed to be responsible for review and audit activities. Guidance for acceptability of personnel are found in Regulatory Guide 1.8 and ANS 3.1.

Meeting this requirement ensures that the plant manager and the corporate officer responsible for the facility will have the benefit of expert advice and consent on activities affecting nuclear safety.²⁷

3. Compliance with 10 CFR 50.36(c)(5) requires that the applicant include in the technical specifications provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to ensure operation of the facility in a safe manner.

The review under SRP Section 13.4 is coordinated with the review of the applicant's proposed quality assurance program and with the review of proposed technical specifications. The reviewer verifies the adequacy of the applicant's proposed quality assurance program and the administrative controls in the proposed technical specifications.

Meeting the requirements of 50.36(c)(5) provides assurance that the proposed administrative controls will result in operation of the facility in a safe manner.²⁸

1. Plant Staff Review

Scope of this review should include that of Section 4.4 of ANSI N18.7 (ANS 3.2), as endorsed by Regulatory Guide 1.33. Organizational arrangements should provide for interdisciplinary reviews of subject matter. Qualification levels for plant staff personnel performing review should be at least equivalent to those described in Section 4.4 of ANSI N18.1 as endorsed by Regulatory Guide 1.8. Review activities should be documented and results forwarded to appropriate members of management. Independent Review Provisions for independent review should meet that described in Section 4.3 of ANSI N18.7 (ANS 3.2), and the qualification requirements for those performing these reviews should meet or exceed those described in Section 4.7 of ANSI/ANS-3.1-1978 and the regulatory position of Regulatory Guide 1.8. Independent Safety Engineering Group (ISEG) The ISEG performs independent reviews of plant operations in accordance with the guidelines of item I.B.1.2 of NUREG-0660 and NUREG-0737. The functions of this group are independent of those performed to meet 1 and 2 above. The group shall be comprised of a minimum of five dedicated, full-time engineers, located onsite, but reporting offsite to a corporate official who holds a high-level, technically oriented position who is not in the management chain for power production. For utilities with multiple sites, it may be possible to perform portions of the independent safety assessment function in a centralized location for all the utility's plants. In such cases, an onsite group still is required, but it may be slightly smaller than would be the case if it were performing the entire independent safety assessment function. Such cases will be reviewed on a case-by-case basis. The group should function to examine plant operating characteristics, NRC c. issuances, Licensing Information Service advisories, and other appropriate sources of plant design and operating experience information for areas for improving plant safety; and to maintain surveillance of plant operations and maintenance activities to provide independent verification that these activities are performed correctly and that human errors are reduced as far as practicable. The group is to perform independent reviews and audits of plant activities d.

including maintenance, modifications, operational problems, and operational

analysis, and aid in the establishment of programmatic requirements for plant activities.

- e. Qualification levels of persons performing this function shall meet or exceed that described in Section 4.4 of ANS 3.1, i.e., a bachelor's degree in engineering, and two to four years experience in their field, including one to two years nuclear experience.
- f. The group shall provide to management no less frequently than monthly a summary of their activities to advise utility management on the overall quality and safety of operations.²⁹

III. REVIEW PROCEDURES

Each element of the FSAR information is to be reviewed against this SRP section. The reviewer's judgment during the review is to be based on an inspection of the material presented, whether items of special safety significance are involved, and the magnitude and uniqueness of the project. Any exceptions or alternatives are to be carefully reviewed to assure ensure they are clearly defined and that an adequate basis exists for acceptance. The applicant should identify the revision of references, regulatory guides and codes and standards used. The reviewer should identify the revision of references, regulatory guides and codes and standards used in the review.

The review of this section of the FSAR consists of an analysis of the information submitted by detailed comparison with the acceptance criteria of subsection II, above. When the reviewer has determined that the acceptance criteria stated above or their equivalent have been satisfactorily addressed in the applicant's plans for conducting reviews, the review of this section of the SAR is complete.³¹

A. The reviewer will review the applicants plan for conducting reviews of operating phase activities important to safety and will verify the following:³²

1. Plant Staff Review

- a. Scope of this review includes that of Section 4.4 of ANSI N18.7 (ANS 3.2), as endorsed by Regulatory Guide 1.33.³³ The scope also includes post-trip reviews as identified in Generic Letter 83-28.³⁴
- b. Organizational arrangements provide for interdisciplinary reviews of subject matter.
- c. Qualification levels for plant staff personnel performing review are at least equivalent to those described in Section 4.4 of ANSI N18.1 and ANSI/ANS-3.1³⁵ as endorsed by Regulatory Guide 1.8.
- d. Review activities will be documented and results forwarded to appropriate members of management.

2. Independent Review

Provisions for independent review meet that those ³⁶ described in Section 4.3 of ANSI N18.7 (ANS 3.2) and the regulatory position of Regulatory Guide 1.33, ³⁷ and the qualification requirements for those performing these reviews meet or exceed those described in Section 4.7 of ANSI/ANS-3.1-1978 ³⁸ and the regulatory position of Regulatory Guide 1.8.

3. Independent Safety Engineering Group (ISEG)

The ISEG performs independent reviews of plant operations in accordance with the guidelines of item I.B.1.C.2.a of NUREG-0660 and item I.B.1.2 of NUREG-0660 and NUREG-0737.

- a. The functions of this group are independent of those performed to meet 1 and 2 above.
- b. The group shall be comprised of a minimum of five dedicated, full-time engineers, located onsite, but reporting offsite to a corporate official who holds a high-level, technically oriented position who is not in the management chain for power production. For utilities with multiple sites, it may be possible to perform portions of the independent safety assessment function in a centralized location for all the utility's plants. In such cases, an onsite group still is required, but it may be slightly smaller than would be the case if it were performing the entire independent safety assessment function. Such cases will be reviewed on a case-by-case basis.
- c. The group functions to examine plant operating characteristics, NRC issuances, Licensing Information Service advisories, and other appropriate sources of plant design and operating experience information for areas for improving plant safety; and to maintain surveillance of plant operations and maintenance activities to provide independent verification that these activities are performed correctly and that human errors are reduced as far as practicable.
- d. The group is to perform independent reviews and audits of plant activities including maintenance, modifications, operational problems, and operational analysis, and aid in the establishment of programmatic requirements for plant activities.
- e. Qualification levels of persons performing this function meet or exceed that described in Section 4.4 of ANS 3.1, i.e., a bachelor's degree in engineering, and two to four years experience in their field, including one to two years nuclear experience.

- f. The group will provide to management no less frequently than monthly a summary of their activities to advise utility management on the overall quality and safety of operations.
- B. The reviewer will coordinate with the HQMB quality assurance program reviewer to ensure consistency with and avoidance of duplication in the quality assurance programs. The reviewer will coordinate with the TSB reviewer to ensure that the technical specifications address review and audit procedures as appropriate.⁴⁰

This SRP section review is performed at the operating license stage. No review will be done for the construction permit or design certification application.⁴¹

IV. EVALUATION FINDINGS

The reviewer verifies that the information presented and his review support conclusions of the following type, to be used in the staff's safety evaluation report:

The staff concludes the program for the review of plant operations is acceptable and contributes to meeting the requirements of 10 CFR Part 50, Appendix B, 10 CFR 50.40(b), and 10 CFR $50.36(c)(5)^{42}$. This conclusion is based on the following:

The applicant's program for the review of plant operations is in conformance with staff guidance described in Regulatory Guide 1.33 and the⁴³ applicable industry standards (ANSI N18.7/ANS-3.2⁴⁴), and is acceptable. The applicant has described the program for the review of operational activities. The program includes reviews by the plant staff organization, reviews of safety-related activities independently of the operating organization, and independent reviews and assessments of plant activities by an independent group located onsite. We have reviewed the The provisions procedures for these reviews have been reviewed in respect to organizational provisions, qualification requirements of those performing the review, and the subject matter to be reviewed. 47

We find that the applicant's The ⁴⁸ program for the review of operational activities is in conformance with staff guidance described in Regulatory Guide 1.33 and the applicable industry standard (ANSI N18.7/ANS-3.2⁴⁹); the. The qualifications levels for plant staff personnel performing reviews meets⁵⁰ the guidelines of Regulatory Guide 1.8 and applicable industry standard ANSI N18.1 and ANSI/ANS-3.1⁵¹, Section 4.4;the. The provisions for an independent review meets⁵² the guidelines of Regulatory Guide 1.33 and applicable industry standard ANSI N18.7 (ANSI 3.2)ANSI N18.7/ANS-3.2,⁵³ Section 4.3 and ANSI/ANS 3.1ANSI N18.1 and ANSI/ANS-3.1⁵⁴, Section 4.7; and the. The applicant's Independent Safety Engineering Group meets the guidelines of Section I.B.1.2 of NUREG-0737.

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plans for using this SRP section.

This SRP section will be used by the staff when performing safety evaluations of license applications submitted by applicants pursuant to 10 CFR 50 or 10 CFR 52.⁵⁵ Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the acceptance criteria described herein will be used by the staff in its evaluation of conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications docketed six months or more after the date of issuance of this SRP section.⁵⁶

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced regulatory guides and NUREG.

VI. REFERENCES

- 1. 10 CFR Part 50, 50.40(b), "Common Standards."
- 2. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)⁵⁷."
- 3. Regulatory Guide 1.8, "Personnel Selection and Training." Qualification and Training of Personnel for Nuclear Power Plants." ⁵⁸
- 4. NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.⁵⁹
- 5. NUREG-0660, "NRC Action Plan Developed as a Result of the TMI 2 Accident," revised August 1980.⁶⁰
- 6. ANSI N18.7-1976/ANS-3.2-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," February 19, 1976. 61
- 7. ANSI/ANS-3.1-1978, "Selection and Training of Nuclear Power Plant Personnel." 62
- 8. ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." 63
- 9. Generic Letter 83-28, "Required Actions Based on Generic Implications of Salem ATWS Event," July 8, 1983.⁶⁴

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Attachment A - Proposed Changes in Order of Occurrence

Item numbers in the following table correspond to superscript numbers in the redline/strikeout copy of the draft SRP section.

Item	Source	Description
1.	Current PRB name and abbreviation	Changed PRB Quality Assurance and Maintenance Branch (HQMB).
2.	Current PRB designation	Changed PRB to HQMB.
3.	SRP-UDP format item	This review applies only at the OL or COL stage of review. No review is done for standard plant design certifications or at the time of construction permit applications.
4.	Editorial revision	This is the first of several changes in this paragraph to clarify that the intent of the applicants reviews and audits reviewed under this SRP section is to achieve administrative control over activities important to safety rather than to achieve quality assurance.
5.	Editorial revision	This phrase is removed as unnecessary. Wording was added to make explicit that the review is done at the OL stage.
6.	Editorial revision	Excess verbiage was removed to simplify the sentence.
7.	Integrated Impact Number 944	Review of the post-trip reviews was added because of the safety importance of this activity per GL 83-28.
8.	Editorial revision	Wording changed slightly to balance clauses in sentence.
9.	SRP-UDP format item	Wording added to show that this review does not apply to CP or design certification applicants.
10.	Editorial revision	RG 1.70 tells what the FSAR should include. This sentence was revised to emphasize what areas are addressed in the SRP section.

Item	Source	Description
11.	Editorial revision	"Plant staff" is used to reduce confusion. Too many different phrases are used to identify the specific review responsibility. The Current SRP section talks about "plant operations review," "onsite organization" review, "plant staff review," "plant staff organization" reviews, and reviews by "an independent group located onsite."
12.	Editorial revision	See above comment.
13.	Editorial revision	It appears that the verb, examine, is modified. Therefore, independently is correct.
14.	SRP-UDP format item	Added "Review Interfaces" to AREAS OF REVIEW.
15.	SRP-UDP format item	A review interface is added with the HQMB review of the quality assurance programs because of the potential overlap of reviews and audits under this section and reviews and audits done as part of the quality assurance program.
16.	SRP-UDP format item	Added lead-in sentence to "Review Interfaces."
17.	SRP-UDP format item	An interface was added for the HHFB review of personnel qualifications because of the potential duplication of review under this SRP section.
18.	SRP-UDP format item	An interface was added for the TSB review of technical specifications because 10 CFR 50.36(c)(5) requires that the administrative controls be in the technical specifications.
19.	Current PRB designation	Changed PRB to HQMB.
20.	Editorial revision	Criteria are.

Item	Source	Description
21.	Editorial revision	Two additional acceptance have been included. Therefore, the format of the section is revised.
22.	Editorial revision	Appendix B is added as an acceptance criterion. The regulatory basis for requiring the reviews and audits is Appendix B rather than 50.40(B). Appendix B requires administrative controls. 50.40(b) requires that the applicant be technically qualified but does not address how the applicant organize.
23.	Editorial revision	The specific criteria have been moved to REVIEW PROCEDURES.
24.	Editorial revision	The technical specifications are required to contain administrative controls by 10 CFR 50.36(c)(5). This has been added as an acceptance criterion since this SRP section must be consistent with the corresponding technical specification.
25.	SRP-UDP format item	Added "Technical Rationale" and lead-in paragraph to ACCEPTANCE CRITERIA.
26.	SRP-UDP format item	Added technical rationale for Appendix B.
27.	SRP-UDP format item	Added technical rationale for 10 CFR 50.40(b).
28.	SRP-UDP format item	Added technical rationale for 10 CFR 50.36(c)(5).
29.	Editorial revision	The detailed acceptance criteria were struck here and reinserted in the REVIEW PROCEDURES section.
30.	Editorial revision	Changed "assure" to "ensure."

Item	Source	Description
31.	Editorial revision	Deleted the paragraph telling the reviewer to compare the application to the detailed acceptance criteria and replaced it by relocating the detailed acceptance criteria to this place in the SRP.
32.	Editorial revision	Added an introductory sentence instructing the reviewer to verify the items which were identified as detailed acceptance criteria in the current SRP section. Although relocated, only changes to the current SRP wording are indicated by redline/strikeout.
33.	Integrated Impact Number 937	Regulatory Guide 1.33 references ANSI N18.7-1976/ANS-3.2. ANS 3.2 was reissued in 1988. The Regulatory Guide should be updated.
34.	Integrated Impact Number 944	The integrated impact recommended that the review of the post-trip review be included in the scope.
35.	SRP-UDP format item	Revision 2 of Regulatory Guide 1.8 identifies positions to be based on the 1981 version of ANS 3.1. The guide then says all other positions are to be based on the 1971 version of ANS 3.1. Therefore, the reference to the 1978 version was deleted.
36.	Editorial revision	Provisions meet those described, not that described.
37.	Editorial revision	Regulatory Guide modifies or interprets ANSI 3.2 somewhat.
38.	Integrated Impact Number 1516	Consideration should be given to updating the ANS 3.1 version to the most current 1993 version. This serves as a placeholder ROC.

Item	Source	Description
39.	Editorial revision	Added an accurate reference to the relevant paragraph in NUREG-0660.
40.	SRP-UDP format item	Added a review procedure to coordinate the review with the HQMB quality assurance program reviewer and the TSB technical specification reviewer.
41.	SRP-UDP format item	Added a sentence clarifying that procedures apply at the OL stage of review.
42.	Editorial revision	Revised findings to show that the two additional acceptance criteria are found to be met.
43.	Editorial revision	Only a single standard is identified. Therefore this sentence was revised to be the same as the lead sentence in the following paragraph.
44.	Editorial revision	The citation of the standard was completed for specificity.
45.	Editorial revision	Changed provisions to procedures because provisions is used again the next clause.
46.	Editorial revision	Changed from active to passive sentence structure to eliminate "we."
47.	Editorial revision	Broke the findings paragraph into two paragraphs for readability.
48.	Editorial revision	Changed from active to passive sentence structure to eliminate "we." Broke this sentence into four sentences for readability.
49.	Editorial revision	The citation of the standard was completed for specificity.
50.	Editorial revision	Levels meet, not meets.

Item	Source	Description
51.	Editorial revision	The citation of the standard was completed for specificity.
52.	Editorial revision	Provisions meet, not meets.
53.	Editorial revision	The citation of the standard was completed for specificity.
54.	Editorial revision	The citation of the standard was completed for specificity.
55.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard sentence to address application of the SRP section to reviews of applications filed under 10 CFR Part 52, as well as Part 50.
56.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
57.	Editorial revision	Completed the title of the referenced regulatory guide.
58.	Editorial revision	Corrected the title of the referenced regulatory guide.
59.	Editorial revision	Added the publication date of the NUREG.
60.	Editorial revision	Inserted bibliographic material for NUREG-0660 which is cited in the text of the current SRP section.
61.	Integrated Impact 682	Added ANSI N18.7-1976/ANS 3.2-1976 to the bibliography.
62.	Editorial revision	Added the ANSI/ANS-3.1-1978 to the bibliography.
63.	Integrated Impact Number 683	Added ANSI 18.1-1971 to the bibliography.
64.	Integrated Impact Number 944	Added Generic Letter 83-28 to the bibliography.

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Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
682	Added ANSI N18.7-1976/ANS 3.2-1976 to the bibliography.	VI
683	Added ANSI 18.1-1971 to the bibliography.	VI
937	Update RG 1.33 to include the latest version of ANSI N18.7.	No change
944	Add acceptance criteria for post-trip review.	I, III.A.1.a, and VI
1516	Place holder ROC. Consider refering to the most recent version of ANS 3.1-1993.	Ш